

On the Introduction of the American SHAD into the Alabama River.

BY W. C. DANIELL, M. D., OF SAVANNAH, GEO.

(Communicated through the Smithsonian Institution.)

My success in establishing the White Shad in the Alabama River being now complete, I propose to give you a detailed statement of the matter.

Having long doubted the generally received theory of the annual migration south from the northern seas, of the White Shad, and of the consequent annual migration thither of the young fry hatched from the eggs deposited by their parents in our fresh water streams, I made inquiry of our fishermen, and learned that minute but distinctive differences were readily detected between the White Shad taken in the Savannah River and those taken in the Ogeechee River, eighteen miles south of the Savannah River. Fully satisfied of this fact, I readily concluded that the young shad that descend to the sea never go so far from the mouth of the river descended, as to lose their connection with it, and that they ascend in the spring the same river which they had descended as young fish the previous summer. Then the feeding ground, so to speak, of the shad is in or near the mouth of the river. If the young shad does attain its growth at the mouth of the Savannah and of the Ogeechee Rivers, may there not be equally good feeding-grounds at the mouths of the Alabama and other rivers flowing into the Gulf of Mexico? To solve this question, I, with the aid of my friend Mark A. Cooper, Esq., whose residence on the Etowah River in Barton County supplied an eligible locality for the experiment, in the early summer of 1848 had placed in a small tributary of the Etowah River the fecundated eggs of the White Shad, which I had myself carefully prepared at my plantation on the Savannah River, ten miles above this city, from living parents. These eggs, so deposited by Major Cooper, were daily visited by him until they had all hatched. I sent another supply of fecundated eggs to Dan'l. Pratt, Esq., at Prattville, near Montgomery, Ala., in 1853 or '54, as he writes me, which he deposited in a small creek. Inasmuch as he left home soon after, and was absent "some weeks," he can only report that during that absence heavy rains raised the waters in the creek, and washed away the "pen" in which he had placed the White Shad eggs supplied by me. Nothing can therefore be safely affirmed of the success of this second deposit, nor is it important, as in 1851 or '52 the White Shad had already been taken in the fish-traps at the foot of the Falls of the Alabama, at Witumka, and of the Black Warrior, near Tuscaloosa, though unknown to me at the time of supplying Mr. Pratt with the fecundated eggs.

Through the kindness of a friend at Montgomery, Ala., a shad taken from the Alabama River was sent to Prof. Holbrook, of Charleston, S. C., and he wrote me that he "felt certain" that the fish received and examined by him was identical with the White Shad of our Atlantic rivers. I have a letter from Chas. T. Pollard, Esq., of Montgomery, Ala., of 6th inst., in which, speaking of the White Shad in the Alabama River, he says: "They have gradually increased in quantity since they first appeared, and have year by year increased in size, until, to use the words of a native of South Carolina, who lived many years near Sistera Ferry, on the Savannah River,—they are now equal to the best Savannah River Shad."

The White Shad have chiefly been taken in the fish-traps at the foot of the Falls at Wetumpka and near Tuscaloosa. One, I am informed, has been taken from a trap at the head of the Coosa River, near Rome, in this State, and only some sixty miles below the locality in which the eggs were deposited by Major Cooper, in a tributary of the Etowah River. I also learn that some few have been taken with a dip net, near Selma.

I think that we may safely conclude that the White Shad may be as successfully established in the Mississippi River as it has been in the Alabama. Since

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feeding-grounds for that delicious fish exist at the mouth of one river flowing into the Gulf of Mexico, may they not exist at the mouths of other or all the rivers discharging into that sea? Time must answer that question.

When the presence of the White Shad in the Alabama River became known, some enterprising citizens of Montgomery came to Savannah and procured a number of the young shad from the river, placed them in a hogshead of water, which was kept cool by occasional supplies of ice, and took them by railroad to Montgomery and placed them in the Alabama River. The purpose of this measure was to multiply more rapidly the shad already established in that river. My agency in placing the White Shad there was not then, I believe, known to those gentlemen, one of whom was Colonel Pickett, the Historian of Alabama.

(*Savannah, April 19, 1866.*)

June 5th.

Mr. CASSIN, Vice-President, in the Chair.

Twenty-two members present.

The following paper was offered for publication: "Description of new species of Diurnal Lepidoptera." By Tryon Reakirt.

Dr. Leidy observed that the small collection of fossils presented this evening by Dr. A. C. Hamlin is of interest, from the fact of one of them being a bird bone. Two accompanying shells are *Balanus Hameri* and *Saxicava rugosa*, post-tertiary species. The specimens were obtained from a railroad cutting on the banks of the Penobscot River, Bangor, Maine, 47 feet below the surface. The bird bone is a right humerus, resembling in its construction that of a Curlew.

Except the so-called bird tracks of the triassic sandstones, almost no fossil remains of birds have been found in the United States. The Museum of the Academy contains a few specimens, which have not been identified, as follows:

A left humerus, almost identical with the one above mentioned, both in form and size, from Tarboro', Edgecombe Co., N. C., presented by Dr. Booth.

The lower extremity of a left humerus and a right radius, from a miocene formation of Maryland, presented by T. A. Conrad. The specimens resemble in construction the corresponding parts in a Snipe, but are as large as in the Curlew.

The lower end of a left tibia, from Burlington Co., N. J., described by Dr. Harlan as the remains of a Snipe, *Scolopax* (Med. and Phys. Res. p. 280.)

The lower end of a left tibia, from the Niobrara River, of Nebraska, discovered by Dr. Hayden, in association with a multitude of mammalian remains. It resembles the corresponding part in a Crane. It is the only ornithic fossil among all the vertebrate remains from Nebraska, amounting to several tons in weight, which Dr. L. had detected.

June 12th.

The President, DR. HAYS, in the Chair.

Twenty-two members present.

June 19th.

The President, DR. HAYS, in the Chair.

Twenty-six members present.

The deaths were announced of Hon. Lewis Cass, Correspondent, and Prof. Henry D. Rogers, member of the Academy.

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